

IN THE DRAWINGS

The drawings were objected to under 37 CFR 1.83(a). Replacement sheets for all six drawing sheets are supplied herewith. Sheets 1-3 and 6 have been formalized with no amendments; and sheets 4 and 5 have been formalized and amended to label the AGC portion of the circuit.

Sheets 4 and 5 have been amended show that a portion of the circuit can operate as an automatic gain control circuit. The amendment to sheet 4 is supported at pg. 6, lines 17-19, and the amendment to sheet 5 is supported at pg. 9, lines 16-19. No new matter has been added.

The claims have been amended so that the term “error amplifier” does not appear in the claims.

Applicants respectfully submit that the amendments to the drawings and associated remarks have overcome the objection to the drawings. Notice to that effect is solicited.

REMARKS

Applicant has reviewed and considered the Office Action mailed on February 22, 2005, and the references cited therewith.

Claims 1, 4, 6, 12, 15, 18, 22, and 26 are amended, claims 2, 3, 9, 14, 24, and 30 are canceled, and no claims are added; as a result, claims 1, 4-8, 10-13, 15-23, and 25-29 are now pending in this application.

§112 Rejection of the Claims

Claim 1 has been amended to recite the “input” transistor rather than the “first” transistor. Claim 6 has been amended to depend on claim 5. Applicants respectfully submit that these claims now have sufficient antecedent basis.

Claims 9, 14, 15, 21, 24 and 27 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Regarding claim 9, the Office Action states that “it is not clear how the ‘D/A converter’ increase a collector-to-emitter bias current in the first transistor as claimed in claim 1.” On page 8, lines 24-26, the application as filed states the “[d]igital-to-analog converter 520 may produce bias voltages and provide them to amplifier 440 on node 522. In some embodiments, DAC 520 serves as one or more controllable bias circuits, such as controllable bias circuit 430 (Figure 4).” Controllable bias circuit 430 is, in turn, described on page 7, lines 23-28 as “Controllable bias circuit 430 may produce one or more bias voltages and provide them to amplifier 440. For example, controllable bias circuit 430 may produce one or more of VBIAS1, VBIAS2, or VBIAS3 to bias various transistors as shown in Figures 1-3. In some embodiments, controllable bias circuit 430 includes a voltage controlled current source such as voltage controlled current source 130 (Figure 1).” The foregoing cited passages from the application as filed demonstrate that the D/A converter may provide a voltage to a voltage controlled current source, such as voltage controlled current source 130 (Figure 1). Notwithstanding the above, claim 9 has been canceled. Claim 9 has not been canceled for reasons of patentability; rather, claim 9 has been

canceled to save fees that would be generated if claim 9 were to be rewritten in independent form.

Regarding claims 14, 15, and 24, the Office Action states that “it is not clear which “error amplifier” is intended.” Claims 14 and 24 have been canceled, rendering this rejection moot with respect to those claims. Claim 15 has been amended to depend on claim 12. As a result of the amendment, the term “error amplifier” does not appear in the claims. Instead, claim 15 refers to the “operational amplifier” of claim 12.

Regarding claim 27, the Office Action states that “the recited method is not clearly disclosed in the specification. Which reference signal is intended and how that output voltage is measured.” Applicants respectfully traverse this rejection. The application as filed, at page 11, lines 12-17 describes using signal generator 510 (Figure 5) to drive a signal on the input to amplifier 440, and describes using analog-to-digital converter 530 (Figure 5) to measure the output voltage of amplifier 440. At page 5, lines 24-27, amplifier 440 is described as “any of the embodiments represented by circuit 100 (Figure 1), circuit 200 (Figure 2), or circuit 300 (Figure 3).” Applicants respectfully submit that the application as filed, including the portions cited above, clearly disclose the subject matter of claim 27.

§102 Rejection of the Claims

Claims 1, 2, 6, 7, 10, 26, 28 and 29 were rejected under 35 USC § 102(b) as being anticipated by Luo et al., (U.S. Patent No. 6,417,734). Claim 1 has been amended to include the limitations of claim 3, which was found to be allowable if rewritten in independent form. Accordingly, applicants respectfully believe claim 1 is in condition for allowance. Claim 2 has been canceled. Claim 10 depends on claim 1, and is believed to be in condition for allowance at least by virtue of dependency. Claims 6 and 7 depend indirectly on claim 4 which was found to be allowable. Claim 26 has been amended to include the limitations of claim 30 which was found to be allowable if rewritten in independent form. Claims 28 and 29 depend on claim 26, and are believed to be in condition for allowance at least by virtue of dependency.

§103 Rejection of the Claims

Claim 8 was rejected under 35 USC § 103(a) as being unpatentable over Luo et al., (U.S. Patent No. 6,417,734). Claim 8 depends indirectly on claim 4 which was found to be allowable if rewritten in independent form. Accordingly, applicants respectfully believe claim 8 is allowable at least by virtue of dependency.

Claim 11 was rejected under 35 USC § 103(a) as being unpatentable over Luo et al., (U.S. Patent No. 6,417,734) in view of Yuan (U.S. Patent No. 6,392,492). Claim 11 depends indirectly on claim 1 which has been amended to include the limitations of claim 3 which was found to be allowable if rewritten in independent form. Accordingly, applicants respectfully believe claim 11 is allowable at least by virtue of dependency.

Claims 12, 13, 16, 17, 22 and 25 were rejected under 35 USC § 103(a) as being unpatentable over Reif et al. (U.S. Patent No. 5,724,004) in view of Luo et al., (U.S. Patent No. 6,417,734). Independent claims 12 and 22 have been amended to recite an “operational amplifier” limitation similar to that recited in the original claim 3. Applicants respectfully submit that claims 12 and 22, as amended, define over the cited references. Accordingly, applicants believe that claims 12 and 22 are in condition for allowance. Claims 13, 16, and 17 depend on claim 12, and are believed to be in condition for allowance at least by virtue of dependency. Further, claim 25 depends on claim 22, and is believed to be in condition for allowance at least by virtue of dependency.

Allowable Subject Matter

Claims 3-5, 18-20 and 30 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 1 has been amended to include the limitations of claim 3. Claim 4 has been amended to be in independent form including all of the limitations of the base claim and any intervening claims. Claim 5 depends on claim 4. Claim 18 has been amended to be in independent form including all of the limitations of the base claim and any intervening claims. Claims 19 and 20 depend on claim 18. Claim 26 has been amended to include the limitations of claim 30.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (952-473-8800) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No 50-2359.

Respectfully submitted,

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Date 4-20-05

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on this 20 day of April, 2005.

Chris Hammond
Name

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Signature